AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A composite polymer electrolyte for a lithium secondary battery, which comprises:

a first polymer matrix made of a first porous polymer with a first pore size, wherein the first porous polymer is polyethylene, polypropylene, polyimide, polysulfone, polyurethane, polyvinylchloride, cellulose, nylon, polyacrylonitrile, polyvinylidene fluoride, polytetrafluoroethylene, a copolymer or blend thereof, and wherein the first polymer matrix does not comprise a polymer type single ion conductor;

a second polymer matrix coated on the first polymer matrix and made of a single ion conductor consisting essentially of polymer, an inorganic material, and a second porous polymer with a second pore size smaller than the first pore size, wherein the second porous polymer is a vinylidene fluoride based polymer, an acrylate based polymer, a copolymer or a blend thereof, and wherein the second polymer matrix has an ionic conductivity equal to or higher than the ionic conductivity of the first polymer matrix; and

an electrolyte solution impregnated into the first polymer matrix and the second polymer matrix.

2. (Cancelled)

3. (Original) The composite polymer electrolyte of claim 1, wherein the single ion conductor is perfluorinated ionomer, methylmethacrylate/alkaline metal methacrylate copolymer ionomer, methylmethacrylate/alkaline itaconate copolymer ionomer, methylmethacrylate/alkaline maleate copolymer ionomer, polystyrene ionomer, or a blend thereof.

4. (Cancelled)

5. (Previously Presented) The composite polymer electrolyte of claim 1, wherein the second porous polymer is a copolymer of vinylidene fluoride and hexafluoropropylene, a copolymer of vinylidene fluoride and trifluoroethylene, a copolymer of vinylidene fluoride and tetrafluoroethylene, polymethylacrylate, polyethylacrylate, polymethylmethacrylate,

polyethylmethacrylate, polybutylacrylate, polybutylmethacrylate, polyvinylacetate, polyethylene oxide, polypropylene oxide, a copolymer or blend thereof.

6. (Original) The composite polymer electrolyte of claim 1, wherein the inorganic material is selected from the group consisting of silica, talc, alumina (Al_2O_3), $\gamma LiAlO_2$, TiO_2, zeolite, molybdenum phosphate hydrate, and tungsten phosphate hydrate.

7. (Original) The composite polymer electrolyte of claim 1, wherein the inorganic material is added in an amount of 1 to 100% by weight, based on the total weight of the polymer of the second porous matrix.

8. (Original) The composite polymer electrolyte of claim 1, wherein the first polymer matrix has a thickness of 10 to 25 μm and the second polymer matrix has a thickness of 0.5 to 10 μm.

9. (Original) The composite polymer electrolyte of claim 1, wherein the electrolyte solution is made of ethylene carbonate, propylene carbonate, dimethyl carbonate, diethyl carbonate, methylethyl carbonate, tetrahydrofuran, 2-methyltetrahydrofuran, dimethoxyethane, methyl formate, ethyl formate, gamma-butyrolactone, or a mixture thereof.

10. (Original) The composite polymer electrolyte of claim 1, wherein the electrolyte solution is impregnated into the first polymer matrix and the second polymer matrix in an amount of 1 to 1,000% by weight, based on the total weight of the polymer of the first polymer matrix and the second polymer matrix.

11. (Original) The composite polymer electrolyte of claim 1, wherein the electrolyte solution comprises at least one lithium salt selected from the group consisting of lithium perchlorate ($LiClO_4$), lithium triflate ($LiCF_3SO_3$), lithium hexafluorophosphate ($LiPF_6$), lithium tetrafluoroborate ($LiBF_4$), and lithium trifluoromethanesulfonylimide ($LiN(CF_3SO_2)_2$).

12. (Original) The composite polymer electrolyte of claim 11, wherein the lithium salt is dissolved in the electrolyte solution in an amount of 1 to 200% by weight, based on the total weight of the polymer of the first polymer matrix and the second polymer matrix.

13. (Currently Amended) A method of manufacturing a composite polymer electrolyte for a lithium secondary battery, the method comprising:

preparing a first polymer matrix made of a first porous polymer with a first pore size, wherein the first porous polymer is polyethylene, polypropylene, polyimide, polysulfone, polyurethane, polyvinylchloride, cellulose, nylon, polyacrylonitrile, polyvinylidene fluoride, polytetrafluoroethylene, a copolymer, or a blend thereof, and wherein the first polymer matrix does not comprise a polymer single ion conductor;

uniformly dissolving a single ion conductor consisting essentially of polymer, an inorganic material, and a second porous polymer with a second pore size smaller than the first pore size in a co-solvent in a predetermined ratio to produce a solution, wherein the second porous polymer is a vinylidene fluoride based polymer, an acrylate based polymer, a copolymer, or a blend thereof;

coating the first polymer matrix with the solution to form a second polymer matrix on the first polymer matrix, wherein the second polymer matrix has an ionic conductivity equal to or higher than the ionic conductivity of the first polymer matrix; and

impregnating the first polymer matrix and the second polymer matrix with an electrolyte solution.

14. (Original) The method of claim 13, wherein the co-solvent is selected from the group consisting of ethanol, methanol, isopropyl alcohol, acetone, dimethylformamide, dimethylsulfoxide, N-methylpyrrolidone, and a mixture thereof.